ORIGINAL
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Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In re Applications of	)	MM Docket No. 86-440
	)	
ACHERNAR BROADCASTING COMPANY	)	File No. BPCT-860410KP
	)	
and	)	
	)	
LINDSAY TELEVISION, INC.	)	File No. BPCT-860410KQ
	)	
For Construction Permit for a new Television Station, Channel 64, Charlottesville, Virginia	)	

To: The Commission

REPLY COMMENTS TO RESPONSE OF APCO

1. Sometime after a round of pleadings concerning the impact of a Charlottesville channel 19 broadcast operation on land mobile operations on channel 18 in the Washington area had closed, the Association of Public-Safety Communications Officials-International, Inc. (APCO) submitted a "response" to the concluding reply pleading filed by Achernar Broadcasting Company (Achernar) and Lindsay Television, Inc. (Lindsay). Given the stature and interest of APCO in spectrum used for public safety operations, and the continuing desire of Achernar and Lindsay to explore fully opportunities to resolve the impasse in their 12-year quest for a Charlottesville television station, we did not object to APCO's motion for leave to file its "response." Fairness entitles us to submit reply comments concerning that response, and APCO has consented to our extension requests to allow time to complete studies of the engineering statement filed by it.

2. The APCO pleading is based on the statement of David

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Eierman, Senior Staff Engineer at Motorola. Attached as Exhibit A is the statement of Clarence M. Beverage, Communications Technologies, Inc., retained by Achernar and Lindsay. Mr. Beverage accepts the analysis of Mr. Eierman and demonstrates that, based on Mr. Eierman's analysis, the proposed television broadcast operation on channel 19 at Charlottesville will not interfere with land mobile operations on channel 18 in the Washington area. Mr. Beverage furnishes information concerning a filter system for UHF broadcasting, provided by Passive Power Products, that will provide a level of protection that is equal to or greater than that called for by Mr. Eierman. Such filters are routinely and successfully employed by UHF stations operating on channels adjacent to land mobile channels. Further, Mr. Beverage notes that the statement at page 3 of the APCO pleading -- that land mobile operations on channel 18 will cause interference to the channel 19 broadcast signal -- is not supported by the statement of Mr. Eierman, APCO's engineer.

3. Mr. Beverage also makes reference to the experience of television station KDTV on channel 14 in San Francisco, which has successfully operated for more than 20 years without causing interference (or by resolving any such interference) to land mobile operations in the six megahertz band immediately below channel 14. For handy reference, we have attached a copy of KDTV's construction permit containing a condition regarding protecting such land mobile operations (Exhibit B) and an engineering report filed by the station identifying the filter

system it employs for that purpose (Exhibit C). It is our understanding that such CP conditions, addressed to an adjacent channel land mobile situation comparable to the channel 18-19 adjacency in question here, may be routinely included. The Commission has apparently found such conditions a workable means of dealing with land mobile interference in other channel 14 construction permits -- an example is attached as Exhibit D. Achernar and Lindsay are willing to accept such a condition in their construction permit for channel 19.

4. The statements of Messrs. Eierman and Beverage corroborate the position of Achernar and Lindsay that the use of channel 19 at Charlottesville is a viable option for the Commission to adopt in resolving the long-standing Charlottesville litigation.

Respectfully submitted,

Margot Polivy by GAB

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October 13, 1998

EXHIBIT A

ENGINEERING STATEMENT IN RESPONSE TO

MOTION FOR LEAVE TO FILE COMMENTS FILED BY

THE ASSOCIATION OF PUBLIC-SAFETY COMMUNICATIONS

OFFICIALS-INTERNATIONAL, INC.

CONCERNING APPLICATION FOR CHANNEL 19 NTSC FACILITIES

ACHERNAR BROADCASTING & LINDSAY TELEVISION, INC.

CHARLOTTESVILLE, VIRGINIA

OCTOBER 1998

ENGINEERING STATEMENT IN RESPONSE TO MOTION FOR LEAVE TO FILE COMMENTS FILED BY THE ASSOCIATION OF PUBLIC-SAFETY COMMUNICATIONS OFFICIALS-INTERNATIONAL, INC. CONCERNING APPLICATION FOR CHANNEL 19 NTSC FACILITIES ACHERNAR BROADCASTING & LINDSAY TELEVISION, INC. CHARLOTTESVILLE, VIRGINIA

OCTOBER 1998

SUMMARY

The following engineering statement has been prepared on behalf of Achernar Broadcasting Company and Lindsay Television, Inc. ("**Applicants**") for NTSC Channel 19 at Charlottesville, Virginia. On September 14, 1998, the Association of Public Safety Communications Officials-International, Inc. ("APCO") filed a Motion For Leave To File Response to the Applicant's amended 301 Application for CP, specifying Channel 19 in lieu of Channel 64. The **Applicants** filed for Channel 19 in response to Commission Action in ET Docket No. 97-157.

The following statement addresses the technical (engineering) aspects of the APCO filing. The legal portion of the Pleading references a four page engineering statement prepared by David Eirman, a staff engineer in the Spectrum Resources Group at Motorola. Mr. Eirman analyzes the issue of TV to adjacent channel Land Mobile interference and then provides a specific value of out of band TV attenuation required to provide full protection from a TV facility to first adjacent channel Land Mobile operations.

APCO ENGINEERING ANALYSES OF TV TO LAND MOBILE INTERFERENCE

A review of the Eirman statement and calculations reveals that industry standard calculations (Docket 85-172) and assumptions have been used by Mr. Eirman and his assumptions and conclusions are, therefore, believed to be reasonable. Mr. Eirman's conclusion is found near the bottom of page three of his statement where he says:

> "Thus, for 1 Megawatt NTSC Channel 19 transmitter (+90 dBm), approximately 75-80 dB of attenuation would be required at 499.9875 kHz to protect typical LMR base station receiver located about 50 miles away."

Mr. Eirman's conclusion is very simple and to the point. If the Channel 19 TV station attenuates emissions from 499.9875 down to 494 mHz (TV Channel 18) by 75-80 dB, there will be no impact to Land Mobile base stations located 50 miles or more from a Channel 19 TV station operating at a power level of 1 Megawatt.

On page 3 of the legal portion of APCO's pleading, it is stated that the proposed Charlottesville 64 dBu Grade B contour lies 2 miles outside of the 50 mile service radius defining the Washington, D.C. Land Mobile service area. On page 4 of the legal pleading, APCO asks that the Commission "... not take any action that would restrict Land Mobile operations at any location within the 50 mile service area."

On Page 4 of the APCO pleading, it is stated that mobile units associated with outlying Land Mobile stations can legitimately operate inside the TV grade B contour and interfere with TV reception.

ANALYSIS of APCO PLEADING

It is important to note that APCO's engineer addresses a single issue; how much attenuation of the TV out of band emission is required to assure uninterrupted Land Mobile operation. Therefore, the statement on page 4 of the legal argument that harmful interference will be caused by mobile units within the Channel 19 Grade B contour is without engineering support. Moreover, the legal argument on page 3 of the APCO pleading that Land Mobile receivers tuned to frequencies in the 494-500 mHz range (UHF TV Channel 18) will be interfered with is not addressed by APCO's engineer and is clearly not factual as long as the Channel 19 TV facility can provide the 75-80 dB of attenuation which APCO's engineer prescribes.

Attached to this statement as *Appendix 1* is a set of performance measurements for a manufactured filter system that, when employed with a standard UHF TV transmitter, will provide attenuation in excess of 80 dB below the TV carrier inside the Land Mobile band as prescribed by APCO's engineer. Based on the above, the **Applicants** believe that Channel 18 Land Mobile operations within 50 miles of the Washington, DC reference point will not be restricted by the proposed Channel 19 operation. Further, no deleterious impact to Channel 19 coverage is anticipated.

REAL WORLD LAND MOBILE/TELEVISION ADJACENT CHANNEL OPERATION

The fact that the FCC has set specific standards for Land Mobile/Television frequency sharing obscures the fact that Land Mobile and Television broadcast operations coexist as adjacent channel neighbors across the country. There are 95 Channel 14 (470-476 mHz) full service and low power TV facilities in the U.S. These TV stations are first adjacent channel facilities to Land Mobile stations operating in the 457.525-469.98125 mHz band as described in *Section 90.75* of the Commission's Rules and Regulations.[1]

Based on affiant's own experience with Channel 14 facilities, interference between Land Mobile stations operating on a lower adjacent channel and TV facilities is a non event. This refers to interference to TV reception as well as interference to Land Mobile operations. Channel 14 clients include WXHL-LP, Wilmington, Delaware. Attached as *Exhibit II* is a list of all Land Mobile records in the 464-470 mHz band within a 25 kilometer radius of the WXHL transmitter site. A 25 kilometer radius was chosen as any significantly greater radius would encompass in excess of 1,000 Land Mobile facilities and our software will not process more than 1,000 records. There are 698 stations within a 25 kilometer radius and their 39 dBu mobile service contours are shown on *Figure 1* along with the WXHL 74 dBu contour. WXHL has received no complaints of interference to its low power signal from Land Mobile facilities nor have there been complaints of interference from the 71 kW ERP facility to Land Mobile operation. It is particularly noteworthy that WXHL has established listeners well outside its 64 dBu service contour yet even at these weak signal reception points, there are no interference reports. It should also be noted that WXHL does not enjoy cable coverage and, thus, depends fully on over the air viewing.

A sample analysis of some of the Channel 14 full power stations appearing in *Exhibit I* was undertaken. WPTO, Oxford, Ohio (greater Dayton) has 178 Land Mobile stations in the 464-470 mHz band within a 25 kM radius of its site. The 39 dBu Land Mobile service contours are shown on *Figure 2* and the FCC database records appear in *Exhibit III*. WPXA Rome, Georgia (greater Atlanta) has 185 Land Mobile stations in the 464-470 mHz band within a 25 kM radius of its site. The 39 dBu service contours are

[1] The lowest UHF television channel is Channel 14 (470-476 mHz). In this statement, adjacent channel Land Mobile operation refers to operation in the range of 464-470 mHz as this is a 6 mHz wide channel as are all domestic TV channels.

shown on *Figure 3* and the station records appear in *Exhibit IV*. WTMW, Arlington, Virginia has in excess of 1,000 Land Mobile stations operating in the 464-470 mHz band within a 25 kilometer radius of its site. *Figure 4* depicts their 39 dBu contours. Due to the size of the file, the data is not tabulated but is available on request.

These situations stand in stark contrast to the **Applicants'** proposal. In the cases cited above, there are hundreds, to in excess of a thousand, Land Mobile stations inside the adjacent channel TV station's Grade B contour and within 25 kM of the TV station's transmitter site. In the **Applicants'** case, there are no Land Mobile transmitter sites in the proposed Grade B contour.

It is clear from this exercise that Land Mobile stations operating on a first adjacent channel below the TV station are in existence throughout the country by the thousands. To gain additional insight into the issue of full service TV stations operating immediately above Land Mobile operations, affiant contacted Bob Wyatt, chief engineer of KDTV, Channel 14, San Francisco, California. San Francisco is the fifth largest TV market and there are hundreds of Land Mobile stations in the 464-470 mHz band within a 25 mile radius of the KDTV site. Mr. Wyatt reported that KDTV has not had a complaint of interference to its signal since the station went on the air in 1979 with the exception of a cable head end interference problem which was solved with a filter at the cable location. Early interference to some Land Mobile frequencies did exist but was resolved with filters and new problems have not occurred.

Of interest is KDTV's construction permit for new Channel 14 transmitting facilities. The CP, BPCT-960201KE, has an operating condition requiring KDTV to protect first adjacent Land Mobile operations in the 460-470 mHz band. This, along with the existence of 94 other Channel 14 TV stations, is clear confirmation to the **Applicants** that adjacent channel Land Mobile and Television operation is not only viable, but regularly granted by the Commission. This is further confirmed by the fact that the Commission has established 38 new Channel 14 DTV allotments as shown on *Exhibit V*, attached.

CONCLUSION

It appears clear from a review of the FCC Master Frequency List Channel 14 (470-476 mHz) Televison

and adjacent Channel Land Mobile facilities in the 464-470 mHz band that these facilities can co-exist without interference. From an engineering standpoint, this situation is identical to the proposed Channel 19 TV and Channel 18 Land Mobile operations adjacent to the TV. It is also clear that the existing standards for adjacent channel Land Mobile sharing of television spectrum are too conservative. Despite this, and in an effort to demonstrate that the **Applicants** are resolved to provide full Land Mobile protection, the **Applicants** continue to certify that they will install filtering as necessary to protect Land Mobile operations on the adjacent Channel 18 band from interference. Manufactured filter systems, when employed with a standard UHF TV transmitter, are available which will provide attenuation in excess of 80 dB below the TV carrier inside the Land Mobile band as prescribed by APCO's engineer. Based on the above, the **Applicants** believe that Channel 18 Land Mobile operations within 50 miles of the Washington, DC reference point will not be restricted by the proposed Channel 19 operation. Further, no deleterious impact to Channel 19 coverage is anticipated.

The foregoing was prepared on behalf of Achernar Broadcasting Company and Lindsay Television, Inc. by Clarence M. Beverage of *Communications Technologies, Inc.*, Marlton, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.

By _____

Clarence M. Beverage
for Communications Technologies, Inc.
Marlton, New Jersey

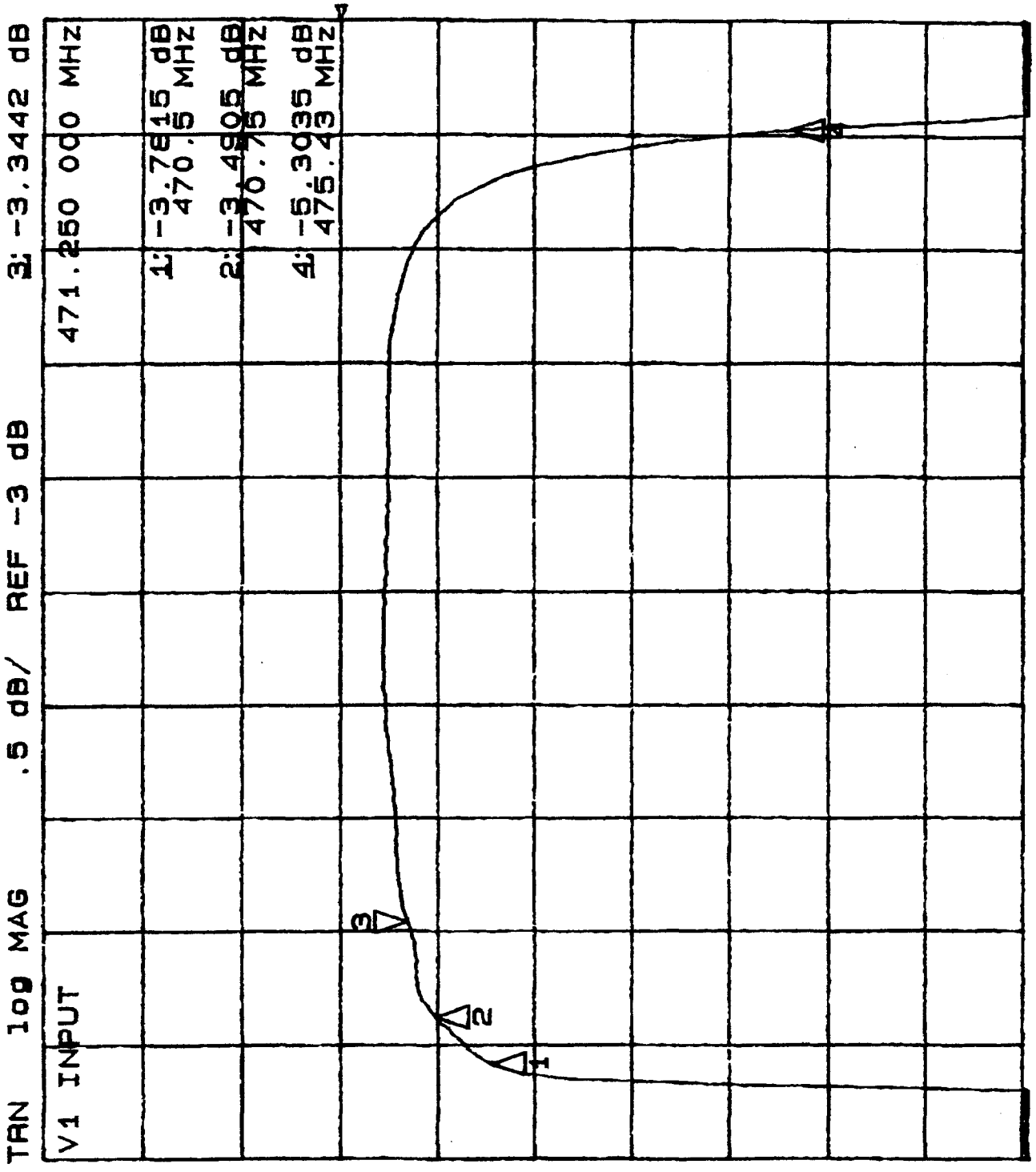
SUBSCRIBED AND SWORN TO before me,

this 12th day of October, 1998,

Esther G. Sperbeck, NOTARY PUBLIC

ESTHER G. SPERBECK
NOTARY PUBLIC OF NEW JERSEY
MY COMMISSION EXPIRES OCT. 15, 2002

Appendix 1

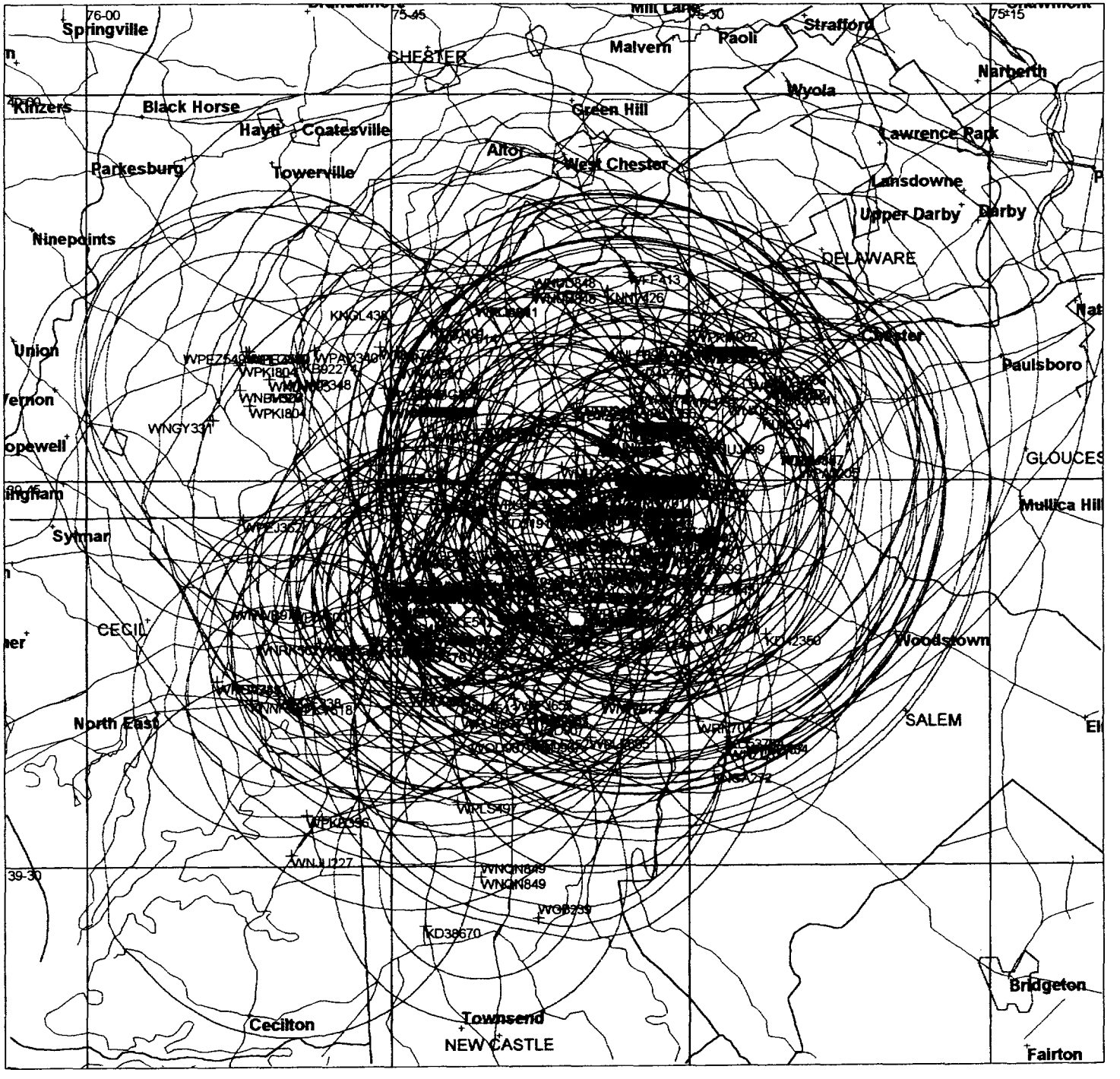


INSERTION LOSS-COMBINED MODE

V1 TO ANTENNA

Figure 13

FIGURE 1 39 dBu CONTOURS FOR LM STATIONS AROUND WXHL



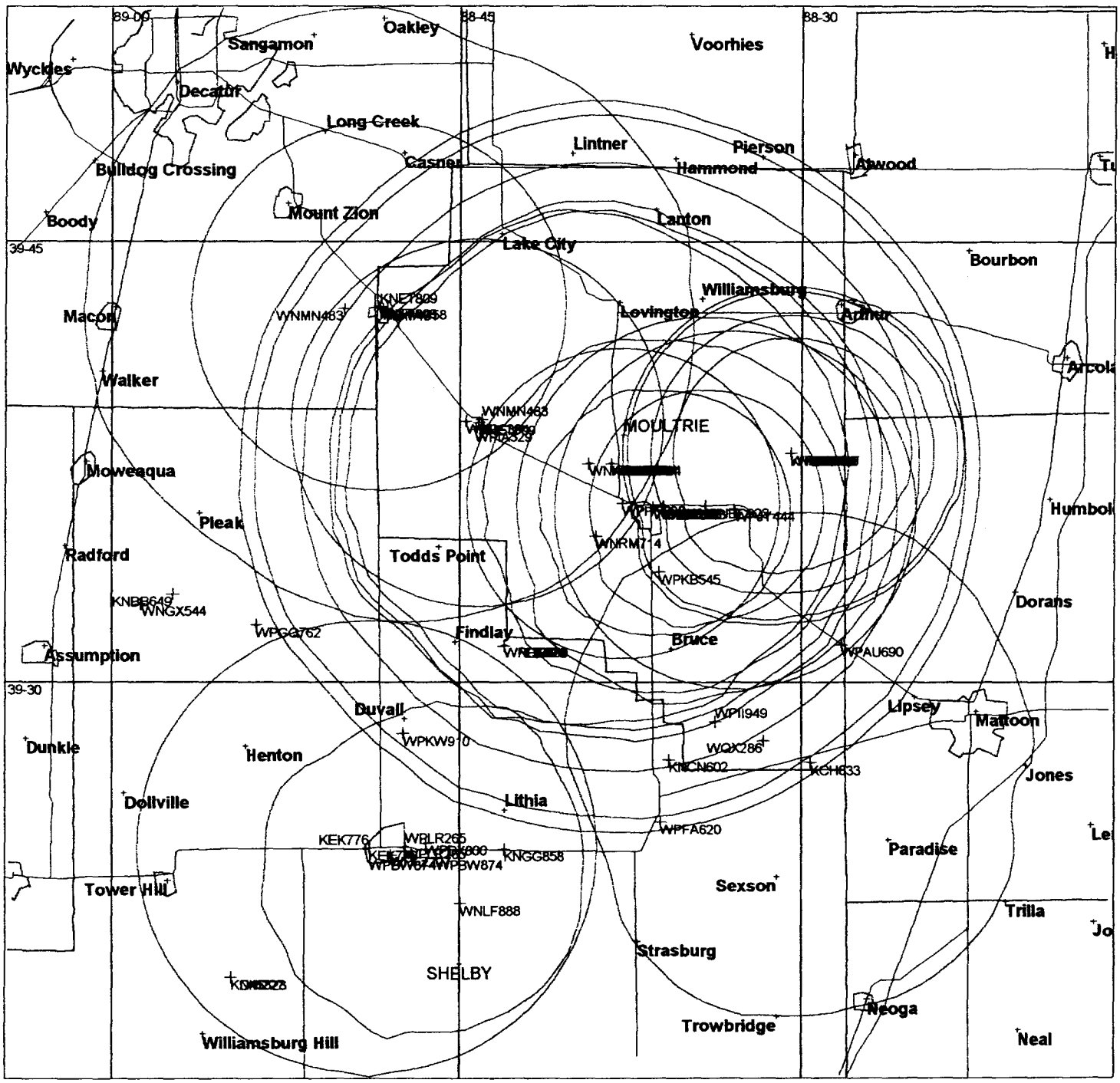
Communications Technologies, Inc. Marlton, NJ October 1998

Scale 1:410000

10 Km

TV Grade 'B' — *LM Service* — *County Borders* — *Highways* — *State Borders* — *Lat-Lon Grids* — *City Borders*

FIGURE 2 39 dBu CONTOURS FOR LM STATIONS AROUND WPTO



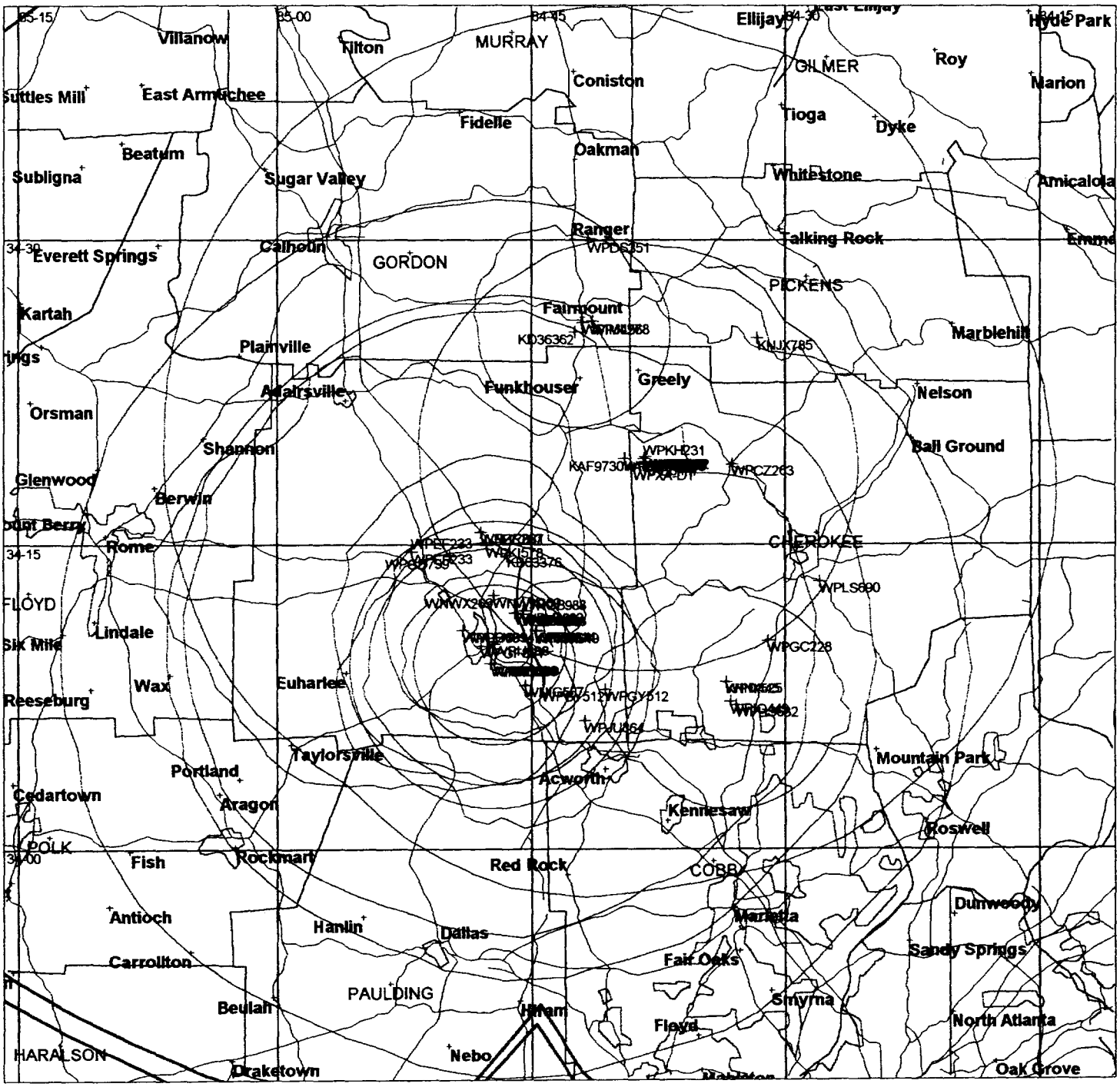
Communications Technologies, Inc. Marlton, NJ October 1998

Scale 1:360000

10 Km

TV Grade 'A' — *TV Grade 'B'* — *LM Service* — *County Borders* — *Highways* — *State Borders* — *Lat-Lon Grids* — *City Borders*

FIGURE 3 39 dBu CONTOURS FOR LM STATIONS AROUND WPXA



Communications Technologies, Inc. Marlton, NJ October 1998

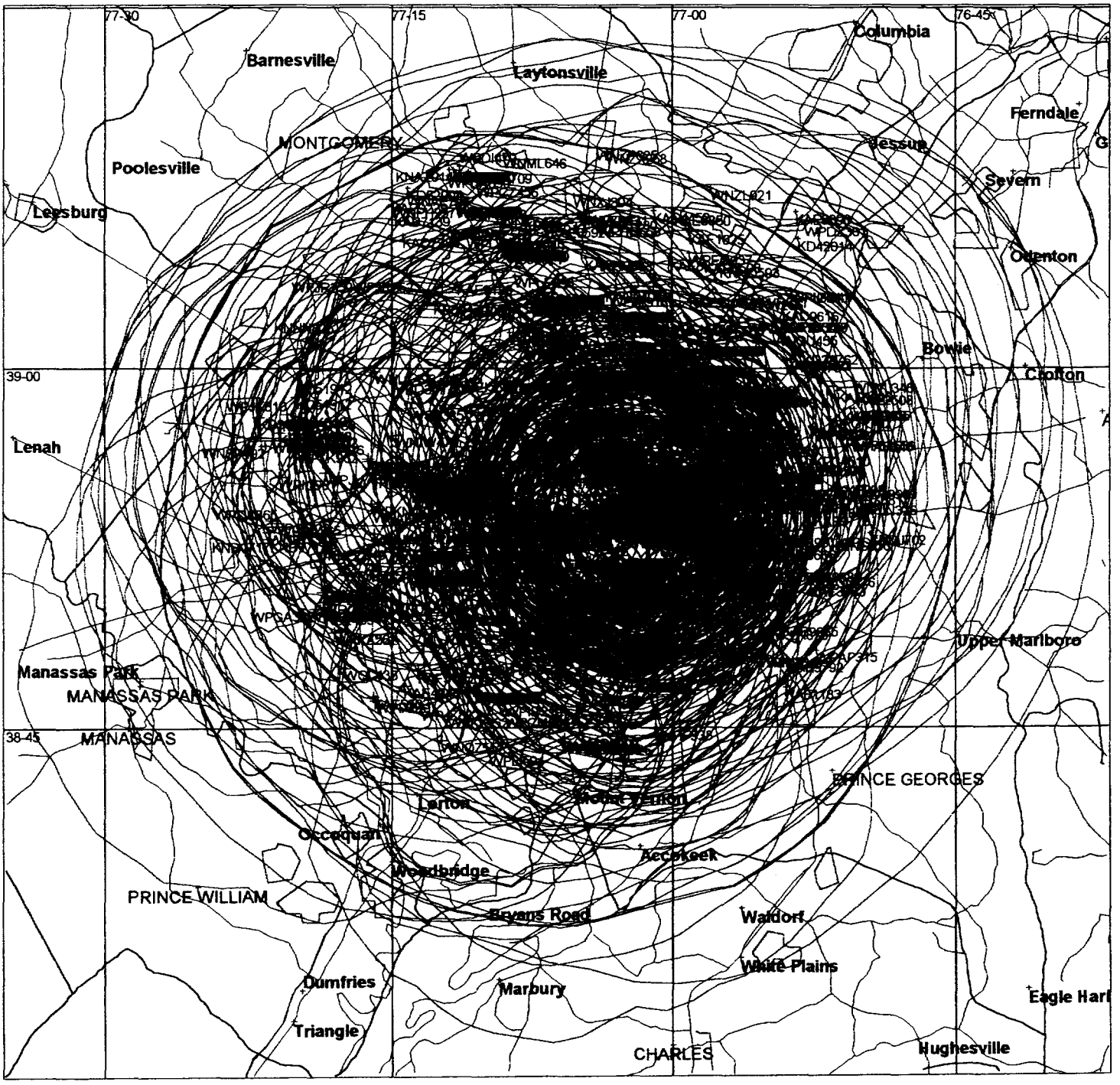
Scale 1:530000

25 Km

— *TV Grade 'A'* — *TV Grade 'B'* — *LM Service* — *County Borders* — *Highways* — *State Borders* --- *Lat-Lon Grids*

— *City Borders*

FIGURE 4 39 dBu CONTOURS FOR LM STATIONS AROUND WTMW



Communications Technologies, Inc. Marlton, NJ October 1998

Scale 1:440000

10 Km

LM Service — *County Borders* — *Highways* — *State Borders* --- *Lat-Lon Grids* — *City Borders*